

REMARKS

Claims 1-15 are pending in the above referenced patent application. Claims 1-4 and 12-15 are rejected as anticipated by Rilum. The Examiner *objects* to Claims 2, 3 and 13 for informality (but does not cite any statutory authority supporting such an *objection* to Applicants' claims.) Claims 5-7 and 8-10 are rejected under 35 USC 112 as being indefinite. Claims 11 is objected to as being dependent upon a rejected base claim.

By the present amendment, Applicants' claims 1 and 12 are clarified to more distinctly claim present the present invention. Obvious typographical errors in the words "through" and "pulse" are corrected. The optical pulse generator is now specified as a *symmetrical* optical pulse generator; as now explicitly claimed, each pulse is *substantially symmetrical*; and the respective pulse duration of each *substantially symmetrical* pulse is varied in accordance with the variable amount of the analog duration control voltage. Support for the amendments is found in the Figures of the above reference patent Application and is found inherently elsewhere in the specification as originally filed. For example, as shown in the Laser Intensity trace found at the bottom of FIG. 3 of the above referenced Application, each pulse is *substantially symmetrical*, and the respective pulse duration of each *substantially symmetrical* pulse is varied in accordance with the variable amount of the analog duration control voltage. No new matter has been entered. An Annotated Version of the Amended Claims is included in the attached in Appendix I.

Applicants wish to thank the Examiner for recognizing in the office action that claim 11 is directed to patentable subject matter. For reasons discussed in further detail subsequently herein, it is believed that claim 1 (as amended) and claim 3 are likewise patentable. Accordingly, there would be no motivation related to patentability for rewriting claim 11 in independent form.

DEFINITENESS

For various reasons, the office action concludes informality, indefiniteness or unclarity in Applicants' claims 2, 3, 5-7, 8-10 and 12. Applicants' Attorney respectfully disagrees with each of these conclusions. It is believed that every pending claim in the above referenced application is in full compliance with the requirements of 35 USC 112.

In *In Re Moore* 439 F.2d 1232, 169 USPQ 236 (CCPA 1971) the court held to the effect that definiteness of claim language must be analyzed -not in a vacuum, but always in light of teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. It is believed that under the rule of *Moore* claims 2, 3, 5-7, 8-10 and 12 are each sufficiently clear and definite under 35 USC 112, because the terms as used would be completely understood by one with ordinary skill in the art.

Specifically:

-where independent claim 1 (or independent claim 12) recite "a variable voltage amount", one with ordinary skill in art would completely understand later references to "the amount", which appear later in dependent claims 2 and 3 (and dependent claim 13);

-where claim 1 recites "a generator of an analog duration control voltage", where claim 5 recites "an analog duration comparator", and where claim 6 recites "a duration control capacitor", it is believed that one with ordinary skill in the art would completely understand these terms (particularly in light of the Applicants' disclosure, which shows the following examples: in FIG. 1 an example of the generator of the analog duration control voltage 113, and in FIG. 2A examples of the analog duration comparator 201 and of the duration control capacitor 203);

-since only *one* "analog duration comparator" is recited in claim 5, it would be completely understood by one with ordinary skill in the art (and it is the Patent Office who is in error alleging unclarity in the office action with respect to "interconnections of the comparators (*plural*) with each other");

- where claim 5 recites "an analog duration comparator having a pair of inputs and an output", and where claim 7 recites "timing control logic coupled with the output of the analog duration comparator", it is believed that one with ordinary skill in the art would completely understand the interconnection of these elements (particularly in light of the Applicants' disclosure, which shows, as examples, timing control logic 133 in FIG 2B coupled with the output 131 of the analog duration comparator 201 in FIG 2A);

-where claim 3 recites "a generator of an analog temporal placement control voltage", where claim 8 recites "an analog temporal placement comparator", and where claim 9 recites "a temporal placement control capacitor", it is believed that one with ordinary skill in the art would completely understand these terms (particularly in light of the Applicants' disclosure, which shows examples: in FIG. 1 of the generator of the analog temporal placement control voltage 115, and in FIG. 2A of the analog temporal placement comparator 211 and the temporal placement control capacitor 213);

-since only *one* "analog temporal placement comparator" is recited in claim 8, it would be completely understood by one with ordinary skill in the art (and it is the Patent Office who is in error alleging unclarity in the office action with respect to "interconnections of the comparators (*plural*) with each other);

-where claim 8 recites "an analog temporal placement comparator having a pair of inputs and an output", and where claim 10 recites "timing control logic coupled with the output of the analog temporal placement

comparator", it is believed that one with ordinary skill in the art would completely understand the interconnection of these elements (particularly in light of the Applicants' disclosure, which shows, as examples, timing control logic 133 in FIG 2B coupled with the output 137 of the analog temporal placement comparator 211 in FIG 2A).

For the foregoing reasons, it is believed that under the rule of *Moore* claims 2, 3, 5-7, 8-10 and 12 are each sufficiently clear and definite under 35 USC 112.

NOVELTY

Claim 1

Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by Rilum. In *Carella v. Starlight Archery & Pro Line Co.*, 804 F.2d 135, 231 USPQ 644 (Fed. Cir. 1986) the Court of Appeals for the Federal Circuit affirmed that anticipation under 102 requires the presence in a single reference of *all* elements of a claimed invention *arranged* as in that claim. Claim 1 as amended requires a *symmetrical* optical pulse generator. As now claimed, each pulse is *substantially symmetrical* and the respective pulse duration of each *substantially symmetrical* pulse is varied in accordance with the variable amount of the analog duration control voltage. For example, as shown in the *Laser Intensity* trace found at the bottom of FIG. 3 of the above referenced Application, each pulse is *substantially symmetrical*, and the respective pulse duration of each *substantially symmetrical* pulse is varied in accordance with the variable amount of the analog duration control voltage.

As claimed, the *symmetrical* optical pulse generator is coupled with a layer of an information storage media through optics. For example, the *symmetrical* optical pulse generator 103, coupled with the layer through optics are shown in FIG. 1 of the above referenced patent application. It is believed that one with ordinary skill in the art would understand and appreciate how the advantageous symmetrical optical pulses (having carefully controlled pulse duration) thermodynamically drive desired physical changes in a wide range of different information storage media during write operations. Accordingly, it is believed that under the reasoning of *Carella*, Claim 1 as amended is not anticipated by Rilum.

Despite contrary assertions in the office action, Applicants' Attorney remains unaware of any explicit teachings of an optical *pulse* generating system anywhere in the Rilium reference.

Absent such teachings, it is believed that at least some with ordinary skill in the art may regard what the apparatus Rilium produces as optical *waveforms* (as shown in FIG. 5 of Rilium) ---rather than optical *pulses*. Indeed, it is believed that the summing circuit 24 and the wave shaping circuit 31 shown in the figures of Rilium, as well as the teaching of wave shaping techniques in the Rilium specification, are all directed to producing optical *waveforms* ---rather than optical *pulses*. Moreover, because of the unusual shape of the Rilium optical *waveforms*, it may be difficult for those with ordinary skill to ascertain *pulse duration* therefrom (or to apprehend any precise control of *pulse duration*.)

Furthermore, it is believed that one with ordinary skill in the art would appreciate the limited applicability of the optical *waveform* teachings of Rilum to the creation of masters for injection molding processes. For example, as explained beginning at column 11, line 9 of the Rilum reference:

"...the present invention can only be used with a mastering system and recording medium combination which can produce continuous gradations in the physical properties of the recording surface, e.g. a combination which can produce different depths of pits (or heights of bumps) on the media surface. Again, recording media employing photoresist cannot be used, because they are incapable of producing different pit depths. As indicated, a primary objective of the invention is to produce a correction signal, or compensation signal, intended to compensate for molding phenomena, where at the outer edge of the disk, typically what is observed is the molding process does not mold all pits with equal pit depth. The pits get shallow at the outer edge. There is not enough pressure and temperature to make a good copy of the pits at the outer edge of a CD or Videodisc mold."

Accordingly, it is believed that Rilum provides no teachings that his invention can be used with other different media, for example CD re-writable media. It should be understood that Applicants' invention is not so limited. One with ordinary skill in the art would appreciate the advantageous *symmetrical* optical pulses of the Applicants' invention, having carefully controlled pulse duration, as being applicable to a wide range of different information storage media (including, but not limited to, CD re-writable media.)

Applicant's Attorney remains unaware of any way for the apparatus taught by Rilum to provide the claimed *symmetrical* optical pulse generator, such that each pulse is *substantially symmetrical* and the respective pulse duration of each *substantially symmetrical* pulse is varied in accordance with the variable amount of an analog duration control voltage. Therefore, under the reasoning of *Carella*, Claim 1 as amended is not anticipated by Rilum.

In *Scripps Clinic & Research Found. V. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ 2d 1001, 1010 (Fed. Cir. 1991) the Court of Appeals for the Federal Circuit held that for a finding of anticipation, the prior art must be such that a person of ordinary skill in the field of the invention would consider there to be *no difference* between the claimed invention and the reference disclosure. Since Rilum does not disclose or suggest that each pulse is *substantially symmetrical*, as that term would be understood by one with ordinary skill in the art, under the reasoning of *Scripps* Claim 1 as amended is not anticipated by Rilum.

Claim 12

Claim 12 is likewise rejected under 35 U.S.C. 102(b) as anticipated by Rilum. Claim 12 as amended requires providing a symmetrical optical pulse generator coupled with a layer of information storage through optics, generating a train of optical pulses wherein each pulse is substantially symmetrical and has a respective pulse duration, and generating an analog duration control voltage having a variable voltage amount for varying the respective pulse duration of each substantially symmetrical pulse in accordance with the amount. For example, as shown in the *Laser Intensity* trace found at the bottom of FIG. 3 of the above referenced Application, each pulse is *substantially symmetrical*, and the respective pulse duration of each *substantially symmetrical* pulse is varied in accordance with the variable amount of the analog duration control voltage. It is believed that under the reasoning of *Carella*, Claim 12 as amended is not anticipated by Rilum.

Rather than generating the claimed *substantially symmetrical pulses*, Rilum teaches generating unusually shaped optical *waveforms* (as shown for example in FIG. 5 of Rilum.) Applicant's Attorney remains unaware of any way for the teachings of the Rilum reference to provide for the claimed *symmetrical* optical pulse generator; or any way for the teachings of the Rilum reference to provide for generating a train of optical pulses wherein each pulse is substantially symmetrical and has a respective pulse duration; or any way for the teachings of the Rilum reference to provide for generating an analog duration control voltage having a variable voltage amount for varying the respective pulse duration of each substantially symmetrical pulse in accordance with the amount. Therefore, Rilum does not anticipate Applicants' claim 12 as amended.

Claims 2-11 and 13-15

Since dependent claims 2-11 and 13-15 each inherit the novel features of respective independent claims 1 and 12, and since independent claims 1 and 12 are each patentable over Rilum, dependent claims 2-11 and 13-15 are each likewise patentable over Rilum.

Furthermore, each of dependent claims 2-11 and 13-15 include additional novel features that are not anticipated by Rilum, for example:

--claim 2 requires a controller coupled the generator for variably controlling the amount, and in turn the respective pulse duration, in accordance with a WRITE STRATEGY that is based on a physical property of the layer of the information storage media. Applicants' Attorney remains unaware of any such teachings in the Rilum reference.

--claim 3 requires a generator of an analog temporal placement control voltage having a variable voltage amount, coupled with the optical pulse generator for varying the respective temporal placement of each pulse in accordance with the amount. Applicants' Attorney remains unaware of any variable temporal placement teachings for optical pulses in the Rilum reference.

--claim 4 requires a controller coupled the generator for variably controlling the amount of the analog temporal placement control voltage, and in turn the respective temporal placement, in accordance with a WRITE STRATEGY that is based on a physical property of the layer of the information storage media. Applicants' Attorney remains unaware of any such teachings in the Rilum reference.

--claim 5 requires an analog duration comparator having a pair of inputs and an output, wherein one of the inputs is coupled with the generator of the analog duration control voltage. Applicants' Attorney remains unaware of any such teachings in the Rilum reference.

--claim 6 requires a duration control capacitor. Applicants' Attorney remains unaware of any such teachings in the Rilum reference.

--claim 7 requires timing control logic coupled with the output of the analog duration comparator, and further coupled with the duration control capacitor for changing charge state thereof based upon the output of the analog duration comparator. Applicants' Attorney remains unaware of any such teachings in waveform shaping techniques of the Rilum reference.

--claim 8 requires an analog temporal placement comparator having a pair of inputs and an output, wherein one of the inputs is coupled with the generator of the analog temporal placement control voltage. Applicants' Attorney remains unaware of any such teachings in the Rilum reference.

--claim 9 requires a temporal placement control capacitor. Applicants' Attorney remains unaware of any such teachings in the Rilum reference.

--claim 10 requires timing control logic coupled with the output of the analog temporal placement comparator, and further coupled with the temporal placement control capacitor for changing charge state thereof based upon the output of the analog temporal placement comparator. Applicants' Attorney remains unaware of any such teachings in waveform shaping techniques of the Rilum reference.

--claim 11 requires both an analog duration comparator and an analog temporal placement comparator. Applicants' Attorney remains unaware of any such teachings in the Rilum reference.

--claim 13 requires controlling the amount, and in turn the respective pulse duration, in accordance with a WRITE STRATEGY that is based on a physical property of the layer of the information storage media. Applicants' Attorney remains unaware of any such teachings in the Rilum reference.

--claim 14 requires generating an analog temporal placement control voltage having a variable voltage amount, coupled with the optical pulse generation for varying the respective temporal placement of each pulse in accordance with the amount. Applicants' Attorney remains unaware of any such teachings in the Rilum reference.

--claim 15 requires controlling the amount of the analog temporal placement control voltage, and in turn the respective temporal placement, in accordance with a WRITE STRATEGY that is based on a physical property of the layer of the information storage media. Applicants' Attorney remains unaware of any such teachings in the Rilum reference.

If the Examiner wishes to discuss the above reference patent application in further detail, the Examiner is invited to contact Applicants' Attorney, Jack Lenell, at (970) 898-7574.

In view of the above, it is believed that Claims 1 through 15 of the above referenced patent application are each in proper form for allowance. Notice of such allowance at an early date is earnestly solicited.

Respectfully submitted,

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Date: January 7, 2003

APPENDIX I

Annotated Version of the Amended Claims

1. (amended) An apparatus comprising:

optics adapted for focusing on a layer of an information storage media;

a[n] symmetrical optical pulse generator, coupled with the layer through the optics, for generating a train of optical pulses, wherein each pulse is substantially symmetrical and has a respective temporal placement within the train and has a respective pulse duration;

a generator of an analog duration control voltage having a variable voltage amount, coupled with the optical pulse generator for varying the respective pulse duration of each substantially symmetrical pulse in accordance with the amount.

12. (amended) A method comprising:

providing optics adapted for focusing on a layer of an information storage media and a[n] symmetrical optical pulse generator, coupled with the layer through the optics;

generating a train of optical pulses, wherein each pulse is substantially symmetrical and has a respective temporal placement within the train and has a respective pulse duration;

generating an analog duration control voltage having a variable voltage amount for varying the respective pulse duration of each substantially symmetrical pulse in accordance with the amount.